

Collect Automates Multi-Channel pH Analysis for Microplate and Vial Samples

Introduction

Collect is a software program that allows users to easily connect RS232 or Ethernet output capable instruments or devices directly with Microsoft Excel®, files or any Windows® application. It includes out-of-the-box features for simple setup and run-time automation and provides a powerful instrument interface manager to handle any number of operations or tasks as part of the integration process.

Application Overview

In this application, an automated interface was created to connect with a Thermo Fisher 3 Star pH meter and model 607, 6-channel switchbox. The interface automatically cycles between the 6 pH probes and records their readings. The 6 pH probes are mounted on a probe stand, with spacing between the probes to allow for all 6 probes to be placed in every other microplate well position, at the same time.

Upon launching the interface Method, Collect automatically opens the pre-defined Excel® template for this Method, adds the Collect floating interface control window to the template and prompts the user to prepare the pH probes.

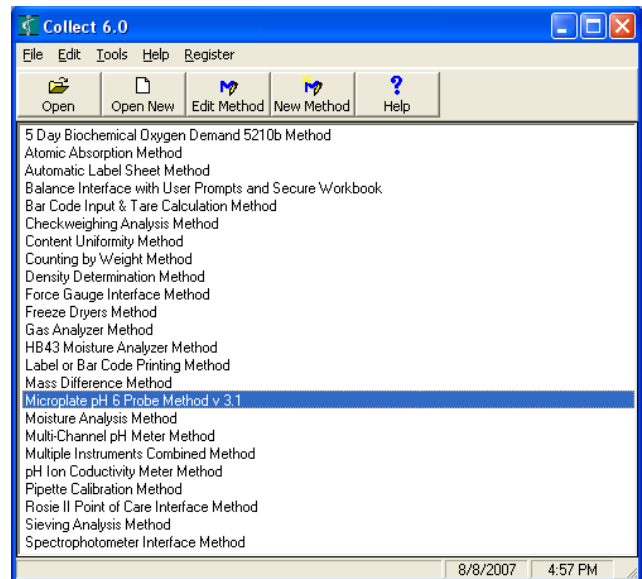


Figure 1. Collect main screen with Methods displayed

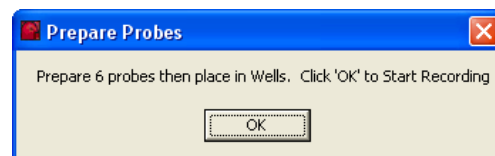


Figure 2: Start a new Method session

Once the OK button in the prompt is pressed, the Collect software automatically turns the 607 switchbox to the first pH probe channel and sets the 3 Star pH meter to the calibration method for that probe. Once a stable reading is achieved, it saves the reading in the run-time Excel® template. After the first reading is received, Collect changes the channel on the switchbox and sets the pH meter to the calibration method for the next probe, then returns that reading to the template. This automated process is repeated through all 6 pH probes. After the reading for the 6th probe is returned, the user is prompted again, as shown in Figure 2, to prepare the probes (rinse) and move to the next set of 6 microplate wells. Pressing OK repeats the automated process across the 6 probes, until all samples in the microplate wells are completed.

The entire pH meter interface and channel switching process, from the point of launching the method, is completely automated through the use of Collect's Advanced Control macro feature.

This Collect interface method significantly improves the pH measuring process, data accuracy and operator efficiency. It is cost effective, simple to setup and easy to use with Excel®.

This is one of the many examples of how Collect can be used to automate serial instrument/device interfaces and solve customer specific application requirements.

For more information on Collect and how it may solve your application needs, contact Labtronics today. E-mail: CollectSales@Labtronics.com or call 519-767-1061.

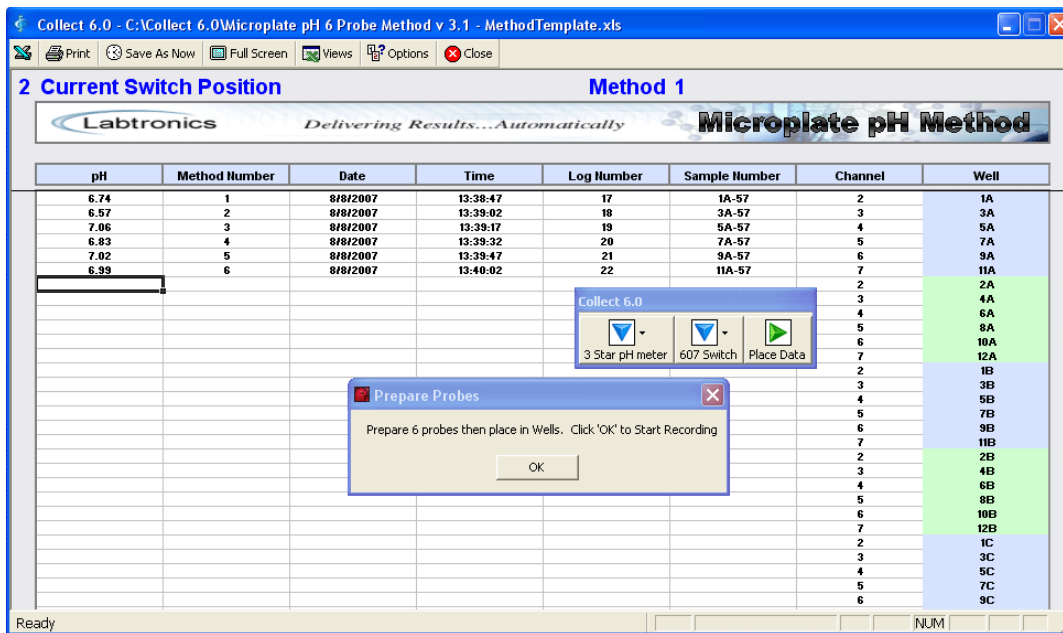


Figure 3: Microplate template after 6 readings

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